? d s
Set Items Description
S1 5901240 S PRESSURE? OR PIEZO? OR PEIZO?
S2 2952994 S SENSOR? OR TRANSMITTER? OR TRANSMITTING?
S3 1234441 S HOUSING OR CASING OR ENCASING OR ENCLOSURE?
S4 204887 S DIAPHRAGM?
S5 4082414 S FLUID?
S6 57652 S MICRO()MECHANICAL? OR MICROMECHANICAL?
S7 9048021 S CAVITY OR CAVITIES OR OPENING? OR HOLE? ? OR GAP? ? OR CHANNEL? OR CONDUIT? OR PATH? ?
S8 12586 S MICROREACT? OR MICRO()REACT?
S9 131171 S S1(2N)S2
S10 32 S S9 AND S3 AND S6
S11 14 S S10 AND (S7 OR S4)
S12 13 RD (unique items)
S13 9977 S S9 AND S4
S14 209 S S6 AND S13
S15 7 S S5 AND S14
S16 7 S S15 NOT S12
S17 6 RD (unique items)
S18 113503 S S7(4N)S5
S19 33934 S S18 AND S1
S20 39 S S19 AND S6
S21 6 S S20 AND S4
S22 4 RD (unique items)

? show files

[File 2] **INSPEC** 1898-2006/Mar W4


[File 6] **NTIS** 1964-2006/Mar W4


[File 8] **Ei Compendex(R)** 1970-2006/Mar W4


[File 25] **Weldasearch** 19662006/Mar


[File 34] **SciSearch(R) Cited Ref Sci** 1990-2006/Mar W4


[File 36] **MetalBase** 1965-20060403


[File 65] **Inside Conferences** 1993-2006/Apr 04


[File 92] **IHS Intl.Stds.& Specs.** 1999/Nov

[File 94] **JICST-EPlus** 1985-2006/Jan W2


[File 95] **TEME-Technology & Management** 1989-2006/Apr W1


[File 99] **Wilson Appl. Sci & Tech Abs** 1983-2006/Mar


[File 103] **Energy SciTec** 1974-2006/Mar B2

**File 103: For access restrictions see Help Restrict.*

[File 104] **AeroBase** 1999-2006/Mar


[File 144] **Pascal** 1973-2006/Mar W2


[File 239] **Mathsci** 1940-2006/May


[File 434] **SciSearch(R) Cited Ref Sci** 1974-1989/Dec


[File 647] **CMP Computer Fulltext** 1988-2006/Apr W4


[File 315] **ChemEng & Biotec Abs** 1970-2006/Mar


[File 347] **JAPIO** Dec 1976-2005/Dec(Updated 060404)


[File 350] **Derwent WPIX** 1963-2006/UD,UM &UP=200622

**File 350: For more current information, include File 331 in your search. Enter HELP NEWS 331 for details.*

[File 31] **World Surface Coatings Abs** 1976-2006/Apr


[File 248] **PIRA** 1975-2006/Mar W2


[File 23] **CSA Technology Research Database** 1963-2006/Mar


[File 46] **Corrosion Abstracts** 1966-2006/Mar

[File 68] **Solid State & Superconductivity Abstracts** 1966-2006/Mar


[File 60] **ANTE: Abstracts in New Tech & Engineer** 1966-2006/Mar


[File 33] **Aluminium Industry Abstracts** 1966-2006/Mar


[File 335] **Ceramic Abstracts/World Ceramics Abstracts** 1966-2006/Mar


[File 294] **ONTAP(R) SciSearch(R) Cited Ref Science**


[File 954] **Ei EnCompassLit(TM)** 1965-2006/Apr W1

**File 954: For disclaimer, type HELP NEWS 954. Alert feature enhanced for multiple files, etc. See HELP ALERT.*

[File 953] **Ei EnCompassPat(TM)** 1964-200613

**File 953: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.*

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10/9/1 (Item 1 from file: 350) **Links**
Derwent WPIX


015953677 **Image available**
WPI Acc No: 2004-111518/200412
XRPX Acc No: N04-088805

**Micromechanical pressure transducer has isolating membrane as region of thinner wall joined on one side to membrane type pressure sensor and exposed on other side to fluid with pressure to be measured**

Patent Assignee: FIRST SENSOR TECHNOLOGY GMBH (FIRS-N); SIEMENS AG (SIEI )
Inventor: **KRAUSE P; STECKENBORN A;** KRAUSSE P
Number of Countries: 031 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---|---|---|---|---|---|---|
| EP 1382952 | A1 | 20040121 | EP 200390196 | A | 20030702 | 200412 B |
| DE 10232721 | A1 | 20040212 | DE 1032721 | A | 20020716 | 200413 |

Priority Applications (No Type Date): DE 1032721 A 20020716
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 1382952 | A1 | G | 8 | G01L-009/00 | |
| Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR | | | | | |
| DE 10232721 | A1 | | | G01L-009/02 | |

Abstract (Basic): EP 1382952 A1

NOVELTY - The device has a micromechanical **housing** (11) with a cavity (16) for a fluid whose pressure is to be measured to which a membrane type **pressure sensor** (12) is attached in micromechanical structural manner. An isolating membrane (22) in the **housing** is formed as a region of thinner wall joined on one side to the **pressure sensor** and exposed on its other side to the fluid with the pressure to be measured.

USE - For pressure sensing.

ADVANTAGE - Simple manufacture and operation.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic representation of an inventive micromechanical **pressure** transducer with a **sensor** mounted using flip-chip technology

**housing** (11)
cavity (16)
membrane type **pressure sensor** (12)
isolating membrane (22)
base substrate (13)
pp; 8 DwgNo 1/2

Title Terms: PRESSURE; TRANSDUCER; ISOLATE; MEMBRANE; REGION; THINNER; WALL ; JOIN; ONE; SIDE; MEMBRANE; TYPE; PRESSURE; SENSE; EXPOSE; SIDE; FLUID; PRESSURE; MEASURE
Derwent Class: S02; U12; V06
International Patent Class (Main): G01L-009/00; G01L-009/02
File Segment: EPI

Manual Codes (EPI/S-X): S02-F04B; U12-B03F1A; V06-L03

20/9/5 (Item 1 from file: 350) **Links**
Derwent WPIX


017532999 **Image available**
WPI Acc No: 2006-044239/200605
XRAM Acc No: C06-016765
XRPX Acc No: N06-037822

**Display apparatus for providing immersive input display in monocular encasing, has display sharing optical path with eyecup, monocular, housing the display, and shutter sharing optical path with display and opens upon deformation of eyecup**

Patent Assignee: BURNETT K (BURN-I); DURBIN J (DURB-I); SCHUETTE L (SCHU-I) ; TREMPER D (TREM-I)
Inventor: BURNETT K; DURBIN J; SCHUETTE L; TREMPER D
Number of Countries: 001 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050270251 | A1 | 20051208 | US 2004863847 | A | 20040603 | 200605 | B |

Priority Applications (No Type Date): US 2004863847 A 20040603
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050270251 | A1 | | 12 | G09G-005/00 | |

Abstract (Basic): US 20050270251 A1

NOVELTY - A display apparatus comprises a deformable eyecup; a display sharing an optical path with the eyecup; a monocular **housing** the display; and a shutter sharing the optical path with the eyecup and the display, where the shutter opens upon deformation of the eyecup.

USE - The apparatus is used for providing an immersive input display in a monocular **encasing**. The monocular can be connected to a system with a video graphics array, National Television System Committee, or equivalent output. The monocular can be applied to fire and rescue as well as police activities, where environmental awareness as well as access to computer data is useful. The monocular is also used to display the situational awareness software used by many emergency agencies while not revealing the user's presence in the immediate surroundings or removing the user's awareness of the immediate surroundings.

ADVANTAGE - The apparatus minimizes or eliminates light emission from the display, as well as inhibits or prevents ambient light from affecting visibility of the display.

DESCRIPTION OF DRAWING(S) - The figure is a block diagram of a display apparatus.

pp; 12 DwgNo 1/7

Technology Focus:

TECHNOLOGY FOCUS - ELECTRONICS - Preferred Component: The shutter comprises a mechanical iris, a liquid crystal shutter, a **micro-mechanical** micro-shutter array, and/or a shutter comprising flaps that flex upon the deformation. The apparatus further comprises a

**pressure sensor** communicating with eyecup and the shutter such that the deformation electrically actuates the iris. The display comprises a micro-display comprising an organic light emitting display, a liquid crystal on silicon display, a transmissive display, a transreflective display, a reflective display, a plasma display, a digital light processing display, and/or a scanned-beam display. The apparatus further comprises a lens sharing the optical path with the shutter and the display. The apparatus further comprises at least one of a focus slide and a focus ring for adjusting a distance between the lens and the display; a wireless receiver for receiving display data and sending the display data to the display; one of a wired connection and a wireless transceiver for receiving display data and sending the display data to the display; and at least one of a pointer controller, a scroll wheel, a touch pad, a mouse button, and a keypad for controlling the display data.

POLYMERS - Preferred Component: The eyecup comprises rubber, neoprene, plastic, and/or pleated material

Title Terms: DISPLAY; APPARATUS; INPUT; DISPLAY; MONOCULAR; ENCASED; DISPLAY; SHARE; OPTICAL; PATH; MONOCULAR; **HOUSING**; DISPLAY; SHUTTER; SHARE; OPTICAL; PATH; DISPLAY; **OPEN**; DEFORM

Derwent Class: A97; P85; S02; T04; W03; W05; W07

International Patent Class (Main): G09G-005/00

File Segment: CPI; EPI; EngPI

Manual Codes (CPI/A-N): A12-E11; A12-L03

Manual Codes (EPI/S-X): S02-F04B; T04-H03C9; W03-A09A; W03-A18A; W05-E07; W07-G

Polymer Indexing (PS):

*001* 2004; R01079 G0828 G0817 D01 D12 D10 D51 D54 D56 D58 D69 D84 Cl 7A; H0000; P0328 ; P0340

*002* 2004; H0124-R

*003* 2004; Q9999 Q8264-R; ND01; K9416; Q9999 Q7512-R; K9905; Q9999 Q9029

20/9/7 (Item 3 from file: 350) **Links**
Derwent WPIX


017220692 **Image available**
WPI Acc No: 2005-544310/200556
XRAM Acc No: C05-164905
XRPX Acc No: N05-445989

**Wrapping of semiconductor pastilles to form structures for micromechanical devices incorporating a membrane, notably for pressure sensors**

Patent Assignee: BOSCH GMBH ROBERT (BOSC ); BENZEL H (BENZ-I); GUENSCHEL R (GUEN-I); HAAG F (HAAG-I); PINTER S (PINT-I); WEIBLEN K (WEIB-I)
Inventor: BENZEL H; GUENSCHEL R; HAAG F; PINTER S; WEIBLEN K; GUNSCHER R; HARK F
Number of Countries: 004 Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---|---|---|---|---|---|---|
| FR 2865575 | A1 | 20050729 | FR 200550168 | A | 20050120 | 200556 B |
| US 20050186703 | A1 | 20050825 | US 200541157 | A | 20050121 | 200556 |
| DE 102004003413 | A1 | 20050811 | DE 102004003413 | A | 20040123 | 200556 |
| JP 2005210131 | A | 20050804 | JP 200515924 | A | 20050124 | 200556 |

Priority Applications (No Type Date): DE 102004003413 A 20040123
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| FR 2865575 | A1 | | 32 | H01L-021/56 | |
| US 20050186703 | A1 | | | H01L-021/50 | |
| DE 102004003413 | A1 | | | H01L-021/52 | |
| JP 2005210131 | A | | 16 | H01L-023/02 | |

Abstract (Basic): FR 2865575 A1

NOVELTY - Wrapping of semiconductor pastilles comprises:

(a) production of a semiconductor pastille (5) with a first membrane zone (55);

(b) installation of a cover (10) above the membrane zone leaving behind the membrane zone;

(c) installation of the semiconductor pastille on a mounting frame (1);

(d) realisation of a moulded **casing** (20) around the semiconductor pastille and of at least one partial zone of the mounting frame in order to wrap the semiconductor pastille.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a semiconductor pastille produced.

USE - For wrapping a semiconductor pastille to form a semiconductor pastille structure for a **micromechanical** device incorporating a **pressure sensor**.

ADVANTAGE - The invention allows moulding or injection around the semiconductor pastille with a membrane zone to form a **casing** similar to that used for integrated circuits, which are simple and economic to fabricate. The cover above the membrane zone also mechanically reinforces the membrane zone whilst protecting against the

moulded mass. Since the cover is of silicon it has the same dilation coefficient as the semiconductor pastille which leads to a lower temperature effect in the output signal. It also eliminates the need for a passivation gel on the membrane thus providing a lower transverse sensitivity with respect to accelerations and more significant application pressures.

DESCRIPTION OF DRAWING(S) - The figure shows the wrapping of a semiconductor pastille according to the invention and shows a cross-sectional view of the corresponding semiconductor pastille structure.

Mounting frame; (1)
Mounting frame passage; (2)
Semiconductor pastille; (5)
Cover; (10)
Glass sealing layer; (11)
Moulded **casing**; (20)
Passage; (21)
Piezoelectric resistances; (51)
Integrated circuit; (52)
Liaison strap; (53)
Membrane; (55)
**Cavity**; (58)
Lateral zone of pastille; (59)
Liaison wire; (60)
**Cavity**; (65)
Soldering layer; (70)
Glass base; (140)
Piercing. (141)
pp; 32 DwgNo 1/9

Technology Focus:

TECHNOLOGY FOCUS - CERAMICS AND GLASS - The cover is preferably made of silicon to provide the same dilation coefficient as that of the semiconductor pastille.

Title Terms: WRAP; SEMICONDUCTOR; PASTILLE; FORM; STRUCTURE; DEVICE; INCORPORATE; MEMBRANE; NOTABLY; PRESSURE; SENSE

Derwent Class: L03; Q68; S02; U11; U12

International Patent Class (Main): H01L-021/50; H01L-021/52; H01L-021/56; H01L-023/02

International Patent Class (Additional): B81B-003/00; B81C-001/00; B81C-003/00; G01L-009/00; H01L-021/60

File Segment: CPI; EPI; EngPI

Manual Codes (CPI/A-N): L04-C21; L04-E10

Manual Codes (EPI/S-X): S02-F04B3; U11-C18C; U12-B03E; U12-B03F1

20/9/8 (Item 4 from file: 350) **Links**
Derwent WPIX


017162285 **Image available**
WPI Acc No: 2005-486631/200549
XRPX Acc No: N05-396103

**Micromechanical component manufacturing method e.g. for micromechanical sensor, involves applying printed conductor to walls of cavity on substrate back**

Patent Assignee: BOSCH GMBH ROBERT (BOSC ); BENZEL H (BENZ-I); FINKBEINER S (FINK-I); GONSKA J (GONS-I); SCHELLING C (SCHE-I)
Inventor: BENZEL H; FINKBEINER S; GONSKA J; SCHELLING C
Number of Countries: 002 Number of Patents: 002
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| US 20050133880 | A1 | 20050623 | US 200416617 | A | 20041217 | 200549 | B |
| DE 10359217 | A1 | 20050728 | DE 10359217 | A | 20031217 | 200549 | |

Priority Applications (No Type Date): DE 10359217 A 20031217
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| US 20050133880 | A1 | | 9 | G02B-026/00 | |
| DE 10359217 | A1 | | | B81B-003/00 | |

Abstract (Basic): US 20050133880 A1

NOVELTY - A printed conductor (120) is applied to the walls of a **cavity** (140) on the substrate back (160), after forming an insulation layer (200). A printed conductor (110) is applied onto substrate front (150). A circuit element (220) formed at the substrate front is electrically connected to the printed conductor at substrate back by through-plating (130).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for **micromechanical** component.

USE - For manufacturing **micromechanical** component (claimed) e.g. **micromechanical** sensor including manifold **sensor** element like **pressure sensor**, air mass **sensor**, acceleration sensor, yaw rate sensor in integrated sensor system.

ADVANTAGE - The **micromechanical** components can be easily arranged inside a **housing**, since there is no complex wiring from one side of the component to the other side.

DESCRIPTION OF DRAWING(S) - The figure depicts a cross-sectional view explaining **micromechanical** component manufacture.

substrate (100)
printed conductors (110,120)
through-plating (130)
**cavity** (140)
substrate front (150)
substrate back (160)
insulation layer (200)
circuit element (220)
pp; 9 DwgNo 2/5

Technology Focus:

TECHNOLOGY FOCUS - INORGANIC CHEMISTRY - The printed conductor is electrically insulated from the substrate by the insulation layer containing silicon oxide (SiOx) or silicon nitride.

ORGANIC CHEMISTRY - The printed conductor is electrically insulated from the substrate by the insulation layer containing silicon oxide (SiOx) or silicon nitride.

Title Terms: COMPONENT; MANUFACTURE; METHOD; SENSE; APPLY; PRINT; CONDUCTOR ; WALL; **CAVITY**; SUBSTRATE; BACK

Derwent Class: P81; Q68; S02; U12; V06

International Patent Class (Main): B81B-003/00; G02B-026/00

International Patent Class (Additional): B81C-001/00

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): S02-C01F1; S02-F04B3; S02-G03; U12-B03E; U12-B03F1A ; V06-L02A; V06-L03

20/9/9 (Item 5 from file: 350) **Links**
Derwent WPIX


016963041 **Image available**
WPI Acc No: 2005-287353/200530
XRAM Acc No: C05-089447
XRPX Acc No: N05-235451

**Fabrication of a micro-mechanical sensor incorporating a sensor element and a working circuit for a wide range of data acquisition applications**

Patent Assignee: BOSCH GMBH ROBERT (BOSC ); BENZEL H (BENZ-I); SCHAEFER F (SCHA-I); SCHELLING C (SCHE-I)
Inventor: BENZEL H; SCHAEFER F; SCHELLING C
Number of Countries: 003 Number of Patents: 003
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|---|---|---|---|---|---|---|
| FR 2860779 | A1 | 20050415 | FR 200452287 | A | 20041007 | 200530 B |
| DE 10347215 | A1 | 20050512 | DE 10347215 | A | 20031010 | 200532 |
| US 20050115321 | A1 | 20050602 | US 2004958014 | A | 20041004 | 200537 |

Priority Applications (No Type Date): DE 10347215 A 20031010
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| FR 2860779 | A1 | | 19 | B81C-001/00 | |
| DE 10347215 | A1 | | | B81C-001/00 | |
| US 20050115321 | A1 | | | G01N-025/00 | |

Abstract (Basic): FR 2860779 A1

NOVELTY - A **micro-mechanical** sensor is fabricated incorporating a component (100) of a first material with at least one sensor zone having a sensor element, a part of a working circuit (130) and first and second sides. The first side incorporates the sensor element and the second side incorporates the working circuit. At least a part of the sensor zone and/or the working circuit are realised by a **micro-mechanical** machining in the first material.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for the **micro-mechanical** sensor fabricated in this manner.

USE - The invention is used for the fabrication of **micro-mechanical** sensors applicable for the measurement of pressure or temperature or air mass or air quality or dew point or gas humidity or the chemical composition of a gas or liquid or acceleration or speed of rotation or thermal conductivity (all claimed).

ADVANTAGE - The invention allows the fabrication of **micro-mechanical** sensors for a wide range of applications. It provides economic advantages and surface gains in the fabrication of the sensors. Simultaneous treatment of several sides of the component reduce the fabrication time and the spatial separation of the working circuit and the sensor zone leads to a setting economy for the upper surface effectively needed and that will be exposed to the substance to be measured.

DESCRIPTION OF DRAWING(S) - The drawing illustrates a form of

**pressure sensor** according to the invention.
First component; (100)
Part of working circuit; (130)
Linkage; (410)
Conducting track; (450)
Second component; (500)
**Casing**; (510)
**Cavity**; (520)
Oscillating structure; (530)
Sensor zone; (540)
Intermediate layer. (550)
pp; 19 DwgNo 5/5

Technology Focus:

TECHNOLOGY FOCUS - ELECTRONICS - The sensor element may be a membrane or a resistive structure or piezo-sensitive resistance layers or a temperature sensor or an electrode device or an oscillating structure (claimed).

Title Terms: FABRICATE; MICRO; MECHANICAL; SENSE; INCORPORATE; SENSE; ELEMENT; WORK; CIRCUIT; WIDE; RANGE; DATA; ACQUIRE; APPLY

Derwent Class: L03; Q68; S02; S03; U11; U12; V06

International Patent Class (Main): B81C-001/00; G01N-025/00

International Patent Class (Additional): B81B-003/00; B81B-007/00; G01K-007/00; G01L-009/00; G01N-007/00; G01P-015/00; H01L-021/461; H01L-029/84

File Segment: CPI; EPI; EngPI

Manual Codes (CPI/A-N): L03-G10A; L04-E10

Manual Codes (EPI/S-X): S02-F04B1; S02-F04B2; S03-B01C; S03-E01A; S03-E02X; U11-C18C; U12-B03F1A; V06-L02A; V06-L03; V06-L10

12/9/11 (Item 7 from file: 350) **Links**
Derwent WPIX


013516966 **Image available**
WPI Acc No: 2001-001172/200101
XRPX Acc No: N01-000963

**Micromechnical or micromechanical-electronic component device - has channel formed in surface of micromechanical of micromechanical-electronic component for isolating outer region attached to casing of device from its inner region**

Patent Assignee: SIEMENS AG (SIEI )
Inventor: AIGNER R; KAPELS H; MARKSTEINER S; OPPERMANN K
Number of Countries: 025 Number of Patents: 001
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| EP 1055921 | A2 | 20001129 | EP 2000109364 | A | 20000502 | 200101 | B |

Priority Applications (No Type Date): DE 1024084 A 19990526
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| EP 1055921 | A2 | G | 5 | G01L-019/00 | |

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

Abstract (Basic): EP 1055921 A

The device has a **casing** in which at least one **micromechanical** or **micromechanical**-electronic component (2) is supported. The surface of the component has at least one **channel** (3) dividing it into an inner region (22) and an outer region mechanically secured to the **casing**. The **channel** provides mechanical isolation between the outer region and the inner region, so that deformation of the outer region caused by the **casing** is not transmitted to the inner region.

USE - Device is used as acceleration **sensor** or **pressure sensor**.

ADVANTAGE -Inner region of **micromechanical** or micromecha.

Dwg.2/3

Title Terms: ELECTRONIC; COMPONENT; DEVICE; **CHANNEL**; FORMING; SURFACE; ELECTRONIC; COMPONENT; ISOLATE; OUTER; REGION; ATTACH; **CASING**; DEVICE; INNER; REGION
Derwent Class: S02; U12
International Patent Class (Main): G01L-019/00
File Segment: EPI
Manual Codes (EPI/S-X): S02-F04B3; S02-F04E; S02-G03; U12-B03F

12/9/12 (Item 8 from file: 350) **Links**
Derwent WPIX


013076559 **Image available**
WPI Acc No: 2000-248431/200022
XRAM Acc No: C00-075318
XRPX Acc No: N00-186011

**Semiconductor micromechanical sensor, e.g. a pressure sensor, is fixed in a housing by a gel to provide an elastic, viscous or flexible bond and long term protection**

Patent Assignee: SIEMENS AG (SIEI )
Inventor: WILDGEN A
Number of Countries: 003 Number of Patents: 004
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| FR 2783048 | A1 | 20000310 | FR 9910868 | A | 19990827 | 200022 | B |
| DE 19840829 | A1 | 20000323 | DE 198040829 | A | 19980907 | 200022 | |
| US 6350630 | B1 | 20020226 | US 99390166 | A | 19990907 | 200220 | |
| DE 19840829 | B4 | 20051020 | DE 198040829 | A | 19980907 | 200569 | |

Priority Applications (No Type Date): DE 198040829 A 19980907
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| FR 2783048 | A1 | | 14 | G01L-019/14 | |
| DE 19840829 | A1 | | | G01L-019/14 | |
| US 6350630 | B1 | | | H01L-021/48 | |
| DE 19840829 | B4 | | | G01L-019/14 | |

Abstract (Basic): FR 2783048 A1

NOVELTY - Semiconductor **micromechanical** sensor (12) fixed in a **housing** (11) by (a) positioning sensor on a seating surface (112) in a **housing** recess (111); (b) simultaneously forming an electrical connection (14) between the sensor and electrical contact (15) on the **housing** and fixing the sensor to the **housing** by pressure reduction through a **conduit** (114); and (c) filling recess with a fixing gel (13).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a sensor structure produced by the above process.

USE - For **housing** a semiconductor **micromechanical** sensor such as a **pressure sensor**.

ADVANTAGE - The gel produces an elastic, viscous or flexible bond between the sensor chip and the **housing** to avoid affecting the sensor characteristics, provides long term protection of the sensor from its environment and avoids the need for use of a support, an adhesive and a protective membrane so that manufacture is simplified and is more economical.

DESCRIPTION OF DRAWING(S) - The drawing shows a sensor structure according to the invention.

**Housing** (11)
Sensor chip (12)

Gel (13)
Electrical connection (14)
Electrical contact (15)
Recess (111)
Seating surface (112)
Pressure reduction **conduit** (114)
pp; 14 DwgNo 1/3

Technology Focus:

TECHNOLOGY FOCUS - POLYMERS - Preferred Gel: The gel is a fluorinated silicone gel.

Title Terms: SEMICONDUCTOR; SENSE; PRESSURE; SENSE; FIX; **HOUSING**; GEL; ELASTIC; VISCOSITY; FLEXIBLE; BOND; LONG; TERM; PROTECT

Derwent Class: A88; S02

International Patent Class (Main): G01L-019/14; H01L-021/48

International Patent Class (Additional): H01L-023/02; H01L-029/84

File Segment: CPI; EPI

Manual Codes (CPI/A-N): A06-A00E2; A12-E13

Manual Codes (EPI/S-X): S02-F04E

Polymer Indexing (PS):

*001* 018; F- 7A; S9999 S1365; P1445-R F81 Si 4A; M9999 M2255 M2222

*002* 018; ND01; Q9999 Q7874; B9999 B3930-R B3838 B3747; B9999 B3554-R; B9999 B4035 B3930 B3838 B3747; K9483-R; K9676-R

*003* 018; F- 7A; H0157

22/9/4 (Item 2 from file: 350) **Links**
Derwent WPIX


011268974 **Image available**
WPI Acc No: 1997-246877/199723
XRPX Acc No: N97-203510

**Micro mechanically manufactured flow restriction system with passage opening - is formed in first main surface of substrate with duct formed in second main surface of substrate in fluid communication with passage opening also with diaphragm**

Patent Assignee: FRAUNHOFER GES FOERDERUNG ANGEWANDTEN (FRAU )
Inventor: WOIAS P
Number of Countries: 020 Number of Patents: 007
Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week | |
|---|---|---|---|---|---|---|---|
| DE 29701418 | U1 | 19970430 | DE 97U2001418 | U | 19970128 | 199723 | B |
| DE 19650116 | C1 | 19980402 | DE 1050116 | A | 19961203 | 199817 | |
| WO 9825110 | A1 | 19980611 | WO 97EP6342 | A | 19971113 | 199829 | |
| EP 943076 | A1 | 19990922 | EP 97951190 | A | 19971113 | 199943 | |
| | | | WO 97EP6342 | A | 19971113 | | |
| EP 943076 | B1 | 20000510 | EP 97951190 | A | 19971113 | 200027 | |
| | | | WO 97EP6342 | A | 19971113 | | |
| DE 59701675 | G | 20000615 | DE 501675 | A | 19971113 | 200036 | |
| | | | EP 97951190 | A | 19971113 | | |
| | | | WO 97EP6342 | A | 19971113 | | |
| US 6263741 | B1 | 20010724 | WO 97EP6342 | A | 19971113 | 200146 | |
| | | | US 99319169 | A | 19990601 | | |

Priority Applications (No Type Date): DE 1050116 A 19961203
Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---|---|---|---|---|---|
| DE 29701418 | U1 | | 14 | G01F-001/40 | |
| DE 19650116 | C1 | | 6 | G01F-001/40 | |
| WO 9825110 | A1 | G | | G01F-001/38 | |
| Designated States (National): JP US | | | | | |
| Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE | | | | | |
| EP 943076 | A1 | G | | G01F-001/38 | Based on patent WO 9825110 |
| Designated States (Regional): CH DE DK FR GB IT LI NL SE | | | | | |
| EP 943076 | B1 | G | | G01F-001/38 | Based on patent WO 9825110 |
| Designated States (Regional): CH DE DK FR GB IT LI NL SE | | | | | |
| DE 59701675 | G | | | G01F-001/38 | Based on patent EP 943076 |
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| US 6263741 | B1 | | | G01F-001/38 | Based on patent WO 9825110 |

Abstract (Basic): DE 29701418 U

The system has a passage opening (12) formed in the first main surface of the substrate (10), with a duct (16) formed in a second main surface of the substrate, communicating **fluidly** with the passage **opening**, also with a **diaphragm** (22). One **diaphragm**

electrode (26) at least is formed on the **diaphragm**. A cover system (30) is applied on the second main surface of the substrate, such that the **diaphragm** electrode together with the duct, define a flow resistance of the flow restriction system.

The cover system has a counter electrode (32) which spaced at a distance from the **diaphragm** electrode, lies opposite the same. In such a manner that the **diaphragm** electrode and the counter electrode define a capacitive **pressure** pick-up. A passage opening is formed in the cover system, which has fluid communication with the duct.

USE/ADVANTAGE - Liquid dosing field. Cost effective and simple **micro mechanically** manufactured flow restriction system, with at least one integrated **pressure** sensor.

Dwg.1/2

Title Terms: MICRO; MECHANICAL; MANUFACTURE; FLOW; RESTRICT; SYSTEM; PASSAGE; OPEN; FORMING; FIRST; MAIN; SURFACE; SUBSTRATE; DUCT; FORMING; SECOND; MAIN; SURFACE; SUBSTRATE; FLUID; COMMUNICATE; PASSAGE; OPEN; **DIAPHRAGM**

Derwent Class: Q57; S02

International Patent Class (Main): G01F-001/38; G01F-001/40

International Patent Class (Additional): F15C-005/00; G01F-001/56; G01L-007/08; G01L-009/12

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): S02-C01A1; S02-C01B4